

A FEASIBILITY STUDY FOR ONLINE MARKETING OF AGRICULTURAL GREENHOUSE PRODUCTS W.R.T. PUNE DISTRICT

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ABSTRACT

One third population of our country is depended on the agriculture business directly or indirectly and hence it is proven that we are an agriculture country. Having more than 30.02%¹ contribution in GDP, agriculture plays the significant role in Indian economy. In last two decades everything is being converted into digital platforms globally. All industries became the digital and adopted paperless transactions. Following the same way in marketing, organizations started selling their product on e-commerce platforms. Promotion activities have started in social media like e-mail, websites, messages etc. Being understood the convenience, effectiveness and efficiency of digitalization Indian Government also launched “Digital India” scheme under which Government is promoting the use of technology in organizational function. Even though it seems somewhat inconvenient to use these types of technologies in unorganized sectors like agriculture, Government of India has announced in its “Union Budget 2016-2017 central Government stated that, the Unified Agricultural marketing e-platform will be launched for wholesale markets in India and 100% FDI to be allowed through FIPB route in marketing of food Products produced and manufactured in India. Considering these changes are going to affect the marketing and trading of agricultural products tremendously, this study is initiating the discussion regarding the possibilities of the digitalization in agricultural business.

Key words: Greenhouse Product Marketing, Online Marketing, Agricultural Marketing, Marketing feasibility.

<http://statisticstimes.com/economy/sectorwise-gdp-contribution-of-india.php>

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INTRODUCTION

This study is significantly focused on Greenhouse products; because, farmers who own Greenhouse can be considered modern, literate and wealthy enough to adopt this kind of change in their business. The geographical area selected for study is semi urban geography where the reach of technology is also high.

In pre-reform period, agriculture marketing was mainly consists of buying and selling the agricultural commodities only. It never involved the activities like advertisement, promotion and any of modern marketing techniques. When the village economy was more or less self-sufficient, the marketing of agricultural products did not have any difficulty as farmer sold their products to the consumers on cash or barter basis. After independence, because of *Green Revolution*; Indian agricultural output has enhanced that it is both self-sufficiency and net exporter of variety agricultural products. Yet, most of Indian farmers have remained quite poor. The cause comprises unorganized and incompetent marketing system which is prerequisite to fetch rational returns to for farmers and to make goods available for consumers. Though several steps are taken from Government side at central and state level, lot of disputes and depressions remained in marketing of agricultural products. As most of the agricultural goods are bought and sold through the hands of middlemen, there arise the question of dissatisfaction and injustice in defining the price received by farmers and the price paid by consumer. In India the agricultural products are marketed through traditional marketing methods, where goods are bought and sold in locally available market place known as **BAZAR** or **MONDHA**.¹¹

The agricultural sector needs well-functioned market to drive growth, employment and economic prosperity in rural India. In order to provide efficiency and effectiveness in marketing system, huge investments are required for the development of post-harvest and cold storage infrastructure nearer to the field. A major portion of this investment is expected from the private sector for which an appropriate regulatory policy is necessary. Also, Government policies should encourage the procurement of agricultural commodities directly from fields to establish effective linkage between farm production and food processing industries. State Government s has to change their respective APMC Acts accordingly to promote investment in marketing infrastructure which can facilitate direct marketing in national integrated market.⁶

Considering the challenges faced by farmers in traditional trading, Government has integrated 21 regulated wholesale markets or *Mandis* in eight states under online platform on April 14, 2016 as initiative in implementation of online marketing in agricultural sector in India under *National Agricultural Market* (NAM) platform. On the same ground many of the State Government s and private players like *Mandi5.com* had launched online wholesale markets for farmers. And as it is open for FDI in food sector marketing in India foreign companies are expected to change the agricultural marketing scenario of Indian market in the nearest future.

On this ground of technical development, it is becoming very necessary to test the reach of technology and literacy of Indian farmers for feasibility in this process. Considering the huge spread out of agricultural sector in terms of number of commodities and geographical reach this study is focused only on greenhouse products. Greenhouses are generally located near to city and reach of technology and access of communication is higher in comparison of remote area. If farmers will be capable enough in using the technology with good economic conditions and operational capacities then only the implementation of online marketing of agricultural greenhouse product is possible. So, the result of the capability test will throw light on the feasibility of online marketing for greenhouse products.

LITERATURE REVIEW

Internet has proved its capabilities for many of individuals and organizations for the marketing of their products. Objective of internet in any business is to expand the business to maximum customers and to minimize the efforts in the distribution channel. Developing the use of internet in business is not easy task for the organizations as they are required to establish the totally new and different marketing strategies².

Paulrajan Rajkumar and Fatima Jacob conducted a study to report the finding from the study on business models for vegetable retailers in both unorganized and organized retailing. Entry of organized retail in India in a vegetable marketing has impacted the whole spectrum of supply chain practices. Organized retail trade has improved the supply of vegetables from cultivation to consumption. As the Indian retail sector is still in its budding stage. The economic liberalization policies and globalization had exploded country's economy for faster growth. The development of organized retailing has been initiated in a big way by the entry of corporate, both domestic and global in term of FDI.

Nigerian farmers are facing problem in marketing their products beyond their locality. Information technology tools have been verified and accepted commonly to answer the problem of marketing faced by farmers. In the present era of globalization, trade liberalization and privatization, Information Technology (IT) plays a dynamic role to make agro-products competitive in the global market through all its appearances like e-mail, e-banking, internet, and e-commerce. Internet is the fastest developing communication medium on earth at present. Doing agribusiness online through internet is generally referred as "E-agribusiness". It is also referred as solicitation of e-commerce in agribusiness (16).

Considering the Indian agricultural marketing; ITC has given a good attempt for the direct marketing of agricultural commodities using its own designed "e-choupal" model. The company has initiated an "e-choupal" model in which they places computers with Internet access in villages; the "e-choupal" serve as both a social gathering place for exchange of information and an e-commerce hub. This has begun an effort to re-engineer the procurement process for soya, tobacco, wheat, shrimp, and other cropping systems. With the help of this system in rural, ITC has created a highly profitable supply and procurement design channel for the company. An e-commerce platform that is also a low-cost fulfillment system focused on the needs of rural India. The "e-choupal" system has also catalyzed rural change; that is helping to improve rural remoteness, create more transparency for farmers, and improve their productivity and income.¹⁷

Self-help groups in India have started marketing their products beyond their localities with the help of information technology. They have accepted merchant's website as the medium between SHG and end users of the agricultural products. Consumers are able to put their orders online for agricultural good which are directly executed by SHG³.

According to Dr. Rajendra in Asia Pacific Journal of Research, there are number of challenges associated with marketing of agricultural harvest. Farmers are having limited access to the market information. Literacy level among the farmers particularly in India is very low; multiple channels of distribution consume away the profit share of farmers. There are too many intermediaries who share the farmer's profit. Although we say that technology has improved but it has not gone to the rural levels⁵.

²Neal H. Hooker, Julia Heilig and Stan Ernst *What is Unique About E-Agribusiness? The Ohio State University Working Paper: AEDE-WP-0015-01*

³Mr. T. Thileepan Dr. K. Soundararajan *e-marketing for self-help group's agricultural products, in india international journal of management (ijm), issn 0976 – 6502(print), ISSN 0976 - 6510(online), ISSN 0976-6502*

SAFAL Market is operating successfully and overcoming the constraints that fresh fruits and vegetable marketing is facing in India. It has been able to establish an efficient supply chain both in backward and forward integration. This model involves private players and government playing the role of a facilitator to make the farmers economically sustainable in long run. The backward integration at SAFAL has been able to bring farmers in marketing process still they are facing certain resistance and constraints from wholesale traders. But moving ahead, SAFAL has recently set up as National Exchange of India, which is the country's first spot exchange for trading on perishable agro-commodities including horticulture, floriculture, dairy products and other allied commodities.²⁰

Karnataka Govt. launched a unified virtual market for agricultural produce which allows traders to buy products online and facilitates payment to farmers' online itself.¹⁴

RESEARCH METHODOLOGY

This research study is divided into two parts, pilot study and main study. Pilot study is based on the exploratory research which was conducted for reliability test of questionnaire and for the formulation of hypothesis.

SAMPLE AND DATA COLLECTION

Sample Unit: Greenhouse owners located in Pune district are considered as prime respondents

Sampling Technique: Convenient sampling

Data Collection Method: Data was collected by visiting some greenhouses nearby Pune city and on telephonic discussions with greenhouse owners.

Sample Size: 24 farmers

Secondary data Sources: Various Magazines, Journals, Government circular, Government and private company websites, Books of rural marketing and agricultural marketing were also has been utilized.

OBJECTIVES OF THE STUDY

- To study the capabilities of farmers for use of online marketing of greenhouse products
- To determine the feasibility of online marketing for agricultural greenhouse products

HYPOTHESIS

- H1= There is significant relation between Technical Capability of farmer and Interest for online Marketing of greenhouse products.
- H2= There is significant relation between Economical Capability of farmer and Interest for online Marketing of greenhouse products.
- H3= There is significant relation between Operational Capability of farmer and Interest for online Marketing of greenhouse products.

RESEARCH TOOL

SPSS has been used to prove our Hypothesis. The justification behind using SPSS is to identify the unobserved variables via Observed variables (Measurement Variables) and find the relationship between these variables. Based on SPSS analysis correlation between dependent variable i.e. *interest in use of Online Marketing for Green House Products* and rest 10 independent (Measurement) Variables is measured and standard deviation is calculated to measure the strength of relations for which structured questionnaire has been framed and responses were collected from the Greenhouse owners.

Relation between these variables is given in following table.

Table 1

Observed variable	Unobserved variables	Statements on which level of agreement measured as response from greenhouse owners
Technical capability	Use of device	I am using one of the device from smart phone or computer
	Awareness of Internet uses	I am aware about the use of Internet
	Awareness about e-banking and e-commerce	I am aware about the e-banking and e-commerce
Economical Capability	availability of adequate finance facilities	I have adequate financial availability for farming
	Affordability for customers	Online marketing will be affordable for farmers and customers as well
Operational Capability	Availability of buyers	Sufficient online buyers are available for greenhouse products
	Quick responses of buyers	Buyers and sellers are giving quick response for online trading of greenhouse products
	Quick order processing and execution	In online trading of greenhouse products order processing and execution is quick
Interest in online marketing	Ready to pay premium charges for online marketing	I am ready to pay some premium charges of hardware and software required for online marketing of greenhouse products
	Ready to learn new avenues	I am ready to learn internet marketing and get trained for online marketing of greenhouse products

Out of these 10 Unobserved (Measurement) Variables 4 Variables are conceptually related to 2 Latent variables namely economical capability of greenhouse owner and Interest in online marketing of greenhouse product. And six unobserved variables are related to technical capability and operational capability of greenhouse owners. The indicators are the effect of Latent variables.

LIMITATIONS

- This study is conducted in Pune district. Hence, this will be the major geographical limitation of this study. So, Implications of this study may or may not be applicable to other geographies.
- Study is conducted only for greenhouse products and their online marketing as agricultural sector and its outputs are very vast.
- Farmers who own greenhouse are less in number in comparison with farmers without greenhouse so opinion of very less farmers is considered for this study.
- There may be many other parameters than Technical, Economical and operational capabilities in terms of feasibility testing for online marketing of greenhouse products.

DATA ANALYSIS AND INTERPRETATIONS

Demographic profile of respondent was created as follows for the descriptive statistical analysis.

Table 2 Demographic Profile of the Respondents

	Response	Frequency	Per cent	Valid Per cent	Cumulative Per cent
Age	51- 60	3	12.5	12.5	12.5
	41 – 50	6	25.0	25.0	37.5
	31 -40	12	50.0	50.0	87.5
	18- 30	3	12.5	12.5	100.0
	Total	24	100.0	100.0	
Gender	Male	21	87.5	87.5	87.5
	Female	3	12.5	12.5	100.0
	Total	24	100.0	100.0	
Education	Up to SSC	3	12.5	12.5	12.5
	SSC	2	8.3	8.3	20.8
	HSC	6	25.0	25.0	45.8
	Graduate	11	45.8	45.8	91.7
	Postgraduate	2	8.3	8.3	100.0
	Total	24	100.0	100.0	
Income	Up to 200000	0	0	0	0
	200001 - 300000	0	0	0	0
	300001 – 400000	4	16.7	16.7	16.7
	400001 – 500000	8	33.3	33.3	50.0
	Above 500000	12	50.0	50.0	100.0
	Total	24	100.0	100.0	

Out of total 24 respondents 50% are from 31 -40 age group and 12.5% are from 51- 60 age group which showss the dominance of youth in greenhouse agricultural business and as only 12.5% (3) females were found in survey as greenhouse owner shows dominance of males in this field. 45.8% (11) of the respondents are graduates and only 5 of them are in SSC range which enlights the impact of education on greenhouse business. 50% of the respondents are from Above 500000 income group indicates the importance of the financial capabilities for the greenhouse business.

RELIABILITY AND VALIDITY ANALYSIS

Before the data analysis to test the Hypothesis; Reliability Test has been conducted to check the reliability of used questionnaire by collecting responses from four respondents for all the latent variables in the path diagram. With the help of AMOS and Microsoft excel based Statistic tools. Results of reliability test are explained in following table.

Table 3 Reliability and Validity Analysis

Questions verified for reliability test	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha	Cronbach's Alpha After
Using device	12.58	2.167	.234	.474	.485	.645
Awareness of internet uses	12.96	1.694	.592	.058		
Availability of IT Infra.	12.71	3.085	-.013	.645		
Awareness about e-banking and e-commerce	13.00	2.435	.430	.315		
Expenses ability for digital marketing	8.21	1.650	-.390	.667	-.344	.573
availability of adequate finance facilities	8.83	.841	.104	-1.198 ^a		
Affordability for customers and farmers too	7.96	.998	.033	-.813 ^a		
Availability of buyers	9.38	.766	.309	.539		
Quick response of buyers	9.67	.406	.711	.054	.568	.711
Quick order processing and execution	9.96	.911	.497	.441		
less Stress of logistics and warehousing	10.13	1.158	.036	.667		
Ready to pay premium charges for online marketing	9.13	.897	.305	.275		
Ready to learn new avenues	8.75	1.065	.376	.211	.442	.762
Interested for online Marketing of greenhouse products	8.79	.955	.167	.762		

Reliability test is invented by Cronbach's and hence statistical reliability is indicated by Cronbach's Alpha value where, the alpha value is categorised in two standards as not reliable if alpha is less than 0.5, can be considered reliable as if alpha is above 0.5 and highly reliable if alpha is above 0.7.

CAPABILITY TESTING FOR DEPENDENT VARIABLES

To know the capabilities of farmers in basic requirements for online marketing of agricultural greenhouse products, we have calculated the mean of farmer's responses collected on the five point Likert scale for the independent variables (measuring variables) which are indicating the farmer's capability in respective fields as follows.

Table: 4 Capability testing for dependent variables

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Using device	24	2	3	5	4.54	.833	.694
Awareness of internet uses	24	2	3	5	4.12	.797	.636
Awareness Ecommerce	24	2.00	3.00	5.00	4.0833	.58359	.341
availability of adequate finance facilities	24	2	1	3	2.33	.761	.580
Affordability for customers and farmers too	24	2	3	5	4.54	.721	.520
Availability of buyers	24	1	3	4	3.67	.482	.232
Quick response of buyers	24	2	3	5	3.38	.576	.332
Quick order processing and execution	24	1	3	4	3.08	.282	.080
Ready to pay premium charges for online marketing	24	2	3	5	4.21	.658	.433
Ready to learn new avenues	24	1	4	5	4.58	.504	.254
Interested for online Marketing of greenhouse products	24	2	3	5	4.54	.721	.520
Valid N (list wise)	24						

TECHNICAL CAPABILITY

In this table mean for Using device, Awareness of internet uses, Awareness Ecommerce is above 4 which indicates farmers are enough capable in the technology required for the online marketing of agricultural greenhouse products. But, the mean value for the measurement variables is close to 3 on five point likert scale which indicates the incapability of farmers in the operational function for online marketing of greenhouse products. Standard deviation for all the measurement variables is less than one and indicates the strong opinion of respondents in acceptable range. Standard deviation for all the measurement variables is less than 1 which shows that the opinions of all farmers are not different from each other.

ECONOMICAL CAPABILITY

Talking about economical capabilities mean for availability of adequate finance facilities is 2.33 which indicate farmers are having issues regarding the finance facilities but they are thinking that online marketing of agricultural greenhouse products will be Affordability for customers and farmers as mean for this opinion question is 4.54. Standard deviation for all the measurement variables is less than 1 which shows that the opinions of all farmers are not different from each other.

OPERATIONAL CAPABILITY

All the three parameters on which operational capability is measured for this study is having mean less than 4 on the five point acceptance scale which indicates that farmers are less capable in terms of getting online customers, customers response and quick order processing from customers. Standard deviation for all the measurement variables is less than 1 which shows that the opinions of all farmers are not different from each other. In this case the opinion of farmers is highly related to each other because the variation in opinion is very less that is not more than 0.4.

INTEREST IN ONLINE MARKETING OF GREENHOUSE PRODUCTS

Farmers interest for online marketing of agricultural greenhouse products is measured on their interest in paying premium charges for online marketing and interest in learning new avenues of online marketing which has mean score 4.21 and 4.58 respectively on five point scale. Hence, we can say farmers are highly interested for online marketing of greenhouse products. Standard deviation for all the measurement variables for interest in online marketing is less than 1 which shows that the opinions of all farmers are not different from each other.

CORRELATION MATRIX AND HYPOTHESIS TESTING

H1= There is significant relation between Technical Capability of farmer and Interest for online Marketing of greenhouse products

Table 5

Correlations		Interested for online Marketing of greenhouse products	Awareness of internet uses	Using device	Awareness Ecommerce
Interested for online Marketing of greenhouse products	Pearson Correlation	1	.785**	.069	.629**
	Sig. (2-tailed)		.000	.747	.001
	N	24	24	24	24
Awareness of internet uses	Pearson Correlation	.785**	1	.483*	.490*
	Sig. (2-tailed)	.000		.017	.015
	N	24	24	24	24
Using device	Pearson Correlation	.069	.483*	1	-.082
	Sig. (2-tailed)	.747	.017		.703
	N	24	24	24	24
Awareness Ecommerce	Pearson Correlation	.629**	.490*	-.082	1
	Sig. (2-tailed)	.001	.015	.703	
	N	24	24	24	24

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Hypothesis one is talking about the significant relation between technical feasibility and interest in online marketing of greenhouse products. Interest for online Marketing of greenhouse products and awareness of internet uses are significantly related with each other at 78.5% with P=0.00. From which we can say, 78.5%

farmers who are aware about use of internet are interested in online marketing of greenhouse products. awareness about e-banking and e-commerce significant positive correlation of 62.9% at P=0.001 levels which shows 62.9% farmers who are aware about Internet banking and e-commerce are interested in online marketing of greenhouse products. the type of device (smart phone or computer) that farmers use is not significantly related with the Interest in online marketing of greenhouse products as P value is greater than level of significance that is (P=0.747) but positive correlation of 69% is there which indicates type of device don't have any relation with the interest of farmers in online marketing of greenhouse products. So, we can say there is technical feasibility for online marketing of greenhouse products as farmers are enough capable in the parameters by which technical feasibility can be determined.

H2= There is significant relation between Economical Capability of farmer and Interest for online Marketing of greenhouse products.

Table 6

Correlations		Interested for online Marketing of greenhouse products	Affordability for customers and farmers too	Availability of adequate finance facilities
Interested for online Marketing of greenhouse products	Pearson Correlation	1	-.422*	.845**
	Sig. (2-tailed)		.040	.000
	N	24	24	24
Affordability for customers and farmers too	Pearson Correlation	-.422*	1	-.502*
	Sig. (2-tailed)	.040		.013
	N	24	24	24
availability of adequate finance facilities	Pearson Correlation	.845**	-.502*	1
	Sig. (2-tailed)	.000	.013	
	N	24	24	24

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

There is significant positive relation between Economical Capability that is availability of adequate finance facilities (P=.000), and Interest for online Marketing of greenhouse products with 84.5% correlation. Interest for online Marketing of greenhouse products and Affordability for customers and farmers are 42.2% correlated with each other with P=0.040 significance. So, this hypothesis can be accepted and we can say there is economic feasibility for online marketing of greenhouse products as farmers are enough capable in the parameters by which economic feasibility can be determined.

H3= There is significant relation between Operational Capability of farmer and Interest for online Marketing of greenhouse products.

Table 7

Correlations Matrix		Interested for online Marketing of greenhouse products	Availability of buyers	Quick response of buyers	Quick order processing and execution
Interested for online Marketing of greenhouse products	Pearson Correlation	1	.042	.327	-.018
	Sig. (2-tailed)		.846	.119	.934
	N	24	24	24	24
Availability of buyers	Pearson Correlation	.042	1	.470*	.213
	Sig. (2-tailed)	.846		.020	.317
	N	24	24	24	24
Quick response of buyers	Pearson Correlation	.327	.470*	1	.602**
	Sig. (2-tailed)	.119	.020		.002
	N	24	24	24	24
Quick order processing and execution	Pearson Correlation	-.018	.213	.602**	1
	Sig. (2-tailed)	.934	.317	.002	
	N	24	24	24	24

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

There is no significant relation between Interest for online Marketing of greenhouse products, availability of buyers, Quick response of buyers and Quick order processing and execution because the p value is greater than 0.05. So, this hypothesis cannot be accepted and we can say there is no operational feasibility for online marketing of greenhouse products as farmers are not enough capable in the parameters by which operational feasibility can be determined.

FINDINGS

- It is found that Interest in online marketing of greenhouse products is significantly related to the farmer's knowledge e-commerce of internet uses.
- Farmers are technically capable for online marketing of greenhouse products.
- Farmers are having enough financial availability for online marketing of greenhouse products and they accept that online marketing of greenhouse products will be affordable for farmers and customers also.
- Farmers are economically capable for online marketing of greenhouse products.
- Farmers are not getting adequate number and response of online buyers.
- As per farmers opinion it is found that online order processing is taking more time than offline.
- Hence, it is found that there is no operational capability in farmers for online marketing of greenhouse products.

RECOMMENDATIONS

- As we found that there is no operational capability in farmers for online marketing of greenhouse products parameters like quick order processing, transport facilities and promotion of the online traders should be focused in this sector.
- Import export agencies can create and promote the platforms for online marketing of greenhouse products.
- Private players like **Mandi 5** and Government Websites like National Agricultural Market (NAM) have to reach more number of farmers and communicate online marketing of greenhouse products.

MANAGERIAL IMPLICATIONS AND CONCLUSION

- As government has allowed 100% FDUI in food and agricultural marketing in annual budget 2016 there is huge scope for the business in this sector and hence this study will help corporate to design the strategies for online marketing of agricultural greenhouse products.
- As internet is growing rapidly in this decade there is very high scope in e-commerce and e-agribusiness so, this study will be helpful to know the feasibility of online marketing in this sector.

REFERENCE

- [1] Agriculture division planning commission Government of India December 2011. Report of the working group on agricultural marketing infrastructure, secondary agriculture and policy required for internal and external trade for the five year plan 2012-17-4.
- [2] Bolthouse Farms, Digging up Baby Carrots, case study in Branding Agricultural Commodities: The development case for adding value through branding Inc. 2010 Presentation.
- [3] Boomsma, M. and M. Arnoldus, Branding for development, KIT Working Papers Series C2, Amsterdam: KIT-5, (2008).
- [4] Boomsma, M. and M. Arnoldus, Branding for development, KIT Working Papers Series C2, Amsterdam: KIT-14, (2008).
- [5] Dr. G. Rajendran Mr. P. karthikesan, Agricultural marketing in India-an overview, AsiaPacific Journal of Research, Vol: I Issue XVII, September 2014, ISSN: 2320-5504, E-ISSN-2347-479.
- [6] Dr. G. Rajendran, Mr. P. Karthikesan, agricultural marketing in India-an overview, Asia Pacific Journal of Research, Vol: I Issue XVII, ISSN: 2320-5504, E-ISSN-2347-4793, September 2014.
- [7] Dr. G. Rajendran, Mr. P. Karthikesan, agricultural marketing in India-an overview,Asia Pacific Journal of Research, Vol: I Issue XVII, September 2014, ISSN: 2320-5504, E-ISSN-2347-4793.
- [8] Dr. M S Subhas, Can horticulture be a success story for India?, International Journal of Application or Innovation in Engineering & Management, Volume 3, Issue 4, April 2014, ISSN 2319 – 4847 2-10 (IJAIEM).
- [9] Dr.Pallavi S. and Dr.Nagaraja, Opportunities & Challenges for Agriculture, Marketing, Indian journal of applied research, Volume: 3 | Issue: 8 | Aug 2013 | ISSN - 2249-555X.
- [10] Ernst and Ehmke, Ecommerce in Agribusiness research project, The Ohio State University (2000).
- [11] http://www.domainb.com/economy/agriculture/20040713_marketing.html 3/4/2016-12.01
- [12] http://www.domainb.com/economy/agriculture/20040713_marketing.html 3/4/2016-12.01
- [13] http://www.domainb.com/economy/agriculture/20040713_marketing.html 3/4/2016-12.01
- [14] <http://www.thehindu.com/news/national/karnataka/unified-online-market-for-agricultural-produce-is-a-reality/article5717197.ece> 10/4/2016-12.01
- [15] Kohls, R.L. and J.N. Uhl, “Marketing of agricultural products”. New Jersey, Prentice Hall, (2002).
- [16] Kuboye B.M., E-Marketing for Nigeria Agricultural Products, Journal of Innovative Research in Engineering and Sciences 4(1), February, 2013. ISSN: 2141-8225 (Print); ISSN: 2251-0524 (Online) (2013).

- [17] Kuttayan Annamalai Sachin Rao, “what works”the microenterprise development division of the United States, agency for international development (USAID), case study through the seep, network's practitioner learning program, August 2003
- [18] M. Roy, Agricultural Marketing: New Challenges, International Journal of Humanities and Applied Sciences (IJHAS), Vol. 1, No. 2, 2012, and ISSN 2277 – 4386.
- [19] Piyush Kumar Sinha and Sujo Thomas, Organized Retailing of Horticultural Commodities, working paper series of the IIMA, W.P. No. 2012-12-03, December 2012.
- [20] Surabhi Mittal, can horticulture be a success story for India? Working Paper No. 197, August 2007.
- [21] Vadivelu and B.R. Kiran, Problems and prospects of agricultural marketing in India: an overview, International Journal of Agricultural and Food Science, 2013, 3(3): 108-118.
- [22] Suyash B.Kamble, I.D.Burase, Avinash R.Kharat and Amol A.Nannikar, Development of Pedal Operated Unit For Agricultural Use. International Journal of Mechanical Engineering and Technology, 7(4), 2016, pp. 267–280.
- [23] K.D.V. Prasad, Dr. Rajesh Vaidya and V Anil Kumar, Study on The Causes of Stress Among The Employees In It Sector and Its Effect on The Employee Performance at The Workplace With Special Reference To International Agricultural Research Institute, Hyderabad: A Comparative Analysis. International Journal of Management, 7(4), 2016, pp.76–98.
- [24] Dr. A. Sivagami and R. Samundeeswari. The Role of Information and Communication Technology in Agricultural Practices in Thanjavur District. International Journal of Management, 7(2), 2016, pp. 747-753